

REMARKS

Claims 1, 2, 4, 6-11, 13-18, and 20-24 are pending in the present application. Claims 1, 15, and 24 are amended herein. The amendments do not add new matter. A Request for Continued Examination (RCE) is being filed with this paper, and therefore it is respectfully requested that the amendments be entered and examined. In view of the amendments and the following remarks, favorable reconsideration of this application is respectfully requested.

Applicants respectfully submit that the detailed action portion of the final rejection does not address claim 20. Applicants respectfully request clarification of the status of claim 20 in the next communication from the Office.

Claims 1, 2, 10, 21, and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,211,937 to Miyachi et al. (hereinafter Miyachi) in view of U.S. Patent No. 6,281,960 to Kishimoto et al. (hereinafter Kishimoto) and U.S. Patent No. 5,953,087 to Hoyt (hereinafter Hoyt). Applicants respectfully traverse.

Regarding claim 1, the Examiner admits that Miyachi does not disclose the recited ration of column spacer area to pixel area of between 0.050 percent and 0.150 percent. The Examiner asserts that Kishimoto discloses this feature at figure 6. The Examiner asserts that the motivation to combine Kishimoto with Miyachi is to "realize a display with a uniform cell gap at a high yield rate" (Office Action; page 3, lines 18-20; citing Kishimoto; col. 11, lines 17-32). However, this is merely a statement apparently regarding the *production process* of Kishimoto, and does not even appear to relate to *the ratios of the respective areas of column spacers and pixels*. The cited section of Kishimoto rather appears to relate to an alignment of black resin layers and stripe-shaped color filters.

In contrast, the invention of the present invention has the advantage discussed in the in the specification at page 29, line 17-20, of reducing irregular brightness. This advantage of the liquid crystal display panel of claim 1 is not discussed or suggested by either of the references. Furthermore, no alternative motivation for the combination is provided. There is no discussion in Kishimoto or Miyachi that suggests the combination with the other reference, and therefore, the rejection based on the combination is improper.

Additionally regarding claim 1, the Examiner admits that Miyachi does not disclose a reservoir (Office Action; page 4, lines 1-3). The Examiner asserts that the feature of a reservoir is disclosed in Hoyt (Office Action; page 4, lines 3-5; citing Hoyt; Figure 1, col. 3, lines 40-62, and col. 6, lines 39-49). Hoyt apparently discloses an auxiliary or adaptive zone in fluid communication with a rigid display aperture zone. The auxiliary or adaptive zone of Hoyt apparently expands or contracts in response to fluid demands of the display aperture zone (Hoyt; col. 3, lines 52-62). The Examiner asserts that the motivation to combine Hoyt with Miyachi is to "prevent deformation of the liquid crystal cell cavity and bubble formation" (Office Action; page 4, lines 8-10; citing Hoyt; col. 1, lines 35-40). The Examiner uses an alleged advantage of Hoyt, preventing deformation, as a motivation to combine the teaching of Hoyt with Miyachi and Kishimoto. However, the Office Action does not explain why a practitioner with knowledge of Miyachi or Kishimoto would be motivated to reduce deformation. Alternatively, the Office Action does not explain why a practitioner with knowledge of Hoyt would be motivated to combine the teaching therein with a liquid crystal display having column spacers as discussed in Miyachi or Kishimoto. A general statement of improvement by, for instance, preventing deformation or increasing productivity, does not translate into a motivation to combine references. Miyachi and Kishimoto relate to liquid crystal devices, but there is no indication in

Miyachi or Kishimoto that the devices recited therein require or would benefit from a reservoir, as used in Hoyt. Similarly, Hoyt does not provide any motivation for a skilled practitioner in the art to look to Miyachi or Kishimoto to combine the references. The Office Action's purported motivation to combine the references is merely a restatement of an advantage of Hoyt, and does not provide a motivation for a skilled practitioner, with knowledge of Hoyt, to suggest the combination with Miyachi and Kishimoto.

The conclusory reasoning of the Office Action is insufficient to support a claim of obviousness. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either *explicitly or implicitly in the references themselves or in the knowledge generally available* to one of ordinary skill in the art. (MPEP 2143.01, emphasis added). "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Korzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

The Federal Circuit addressed the standard for obviousness and the requirement of motivation in Teleflex, Inc. et al. v. KSR Int'l Co., (119 Fed. Appx. 282; 2005 U.S. App. LEXIS 176). The patent at issue in *Teleflex*, related to an electronic pedal position control and a pedal assembly. In *Teleflex*, the district court granted a motion for summary judgment based on invalidity due to obviousness. The Federal Circuit vacated the decision and remanded to the lower court for further proceedings on the issue of obviousness. The Federal Circuit stated that, in regard to obviousness, "a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, *but some motivation to combine the prior art*

teachings in the particular manner claimed.” (*Teleflex*, citing *In re Kotzab*; emphasis added).

The Federal Circuit found that there was no motivation to combine the Asano patent, which disclosed all of the limitations except the electronic control, and the Rixon patent, which disclosed an electronic control and an adjustable pedal assembly. As the court further stated:

[t]he district court correctly noted that the nature of the problem to be solved may, under appropriate circumstances, provide a suggestion or motivation to combine prior art references. However, the test requires that the nature of the problem to be solved be such that it would have led a person of ordinary skill in the art to combine the prior art teachings in the particular manner claimed.

(*Teleflex*, citing as background *Rouffet*, 149 F.3d at 1357; emphasis added).

It is respectfully submitted that the present rejection is similar to the rejection discussed in *Teleflex* in that there is no proper motivation provided in Kishimoto to suggest the combination of Kishimoto with Miyachi. Similarly, there is no motivation in Hoyt to suggest combining its teaching with either of Miyachi or Kishimoto. As the *Teleflex* court held, there must be *specific teaching* to motivate a person of ordinary skill in the art to combine the prior art teachings *in the particular manner claimed*. Therefore, since there is no motivation to combine the references, the rejection is improper.

However, in the interest of expediting prosecution, Applicants herein amend the independent claims to include the limitation that the liquid crystal display panel is *an In-Plane-Switching display panel*. When the IPS panel is put in a high-temperature atmosphere, the friction between the LCD and the orientation film becomes weak, and the liquid crystal moves downward due to gravity. As a result, the liquid crystal gathers in a lower portion of the LCD panel. This causes the lower portion of the LCD panel to become thick. This phenomenon results in a difference of brightness in the LCD panel. Thus, the difference in brightness is liable to take

place in an IPS panel because: (1) the LCD is homogenously oriented in one direction, (2) the orientation is close to the vertical direction of the panel, and (3) low viscous liquid crystal is used in the IPS panel. Since this difference in brightness is more likely to take place in IPS panel, the improvement in ratio between the area occupied by the columns and the area of each pixel is significant and important in that it is effective against the degradation of an IPS panel more than other types of LCD panels. It is respectfully submitted that none of the prior art references disclose or suggest an In-Plane-Switching display panel and therefore, for at least this additional reason, claim 1 is allowable over the cited references.

Claims 2, 10, and 21 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable.

Claim 22 depends from independent claim 15, which also provides that the assembled substrate structure provides a reservoir between the substrate structures for preventing the pair of substrate structures from increasing the gap by accumulating part of the liquid crystal. Therefore, claim 15 is allowable for at least the same reasons as claim 1 is allowable as discussed above, and claim 22 is allowable based on its dependence from claim 15.

Claims 14-18, 22, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Kishimoto and Hoyt, and further in view of U.S. Patent No. 6,288,766 to Mashiko et al. (hereinafter Mashiko). Applicants respectfully traverse.

The addition of Mashiko fails to cure the critical deficiency discussed above in regard to Miyachi and Kishimoto as applied to claim 1, and therefore claim 14 is allowable at least for the same reasons as claim 1 is allowable.

As mentioned above, independent claim 15 also recites a reservoir and has been amended in a similar manner to claim 1, and therefore, claim 15 is allowable for at least the same reasons as claim 1 is allowable.

Claims 16-18, 22, and 23 depend from claim 15 and are therefore are allowable for at least the same reasons as claim 15 is allowable.

Claims 4 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Kishimoto and Mashiko, and further in view of U.S. Patent No. 6,010,384 to Nishino et al. (hereinafter Nishino). Applicants respectfully traverse.

The addition of Nishino fails to cure the critical deficiency discussed above in regard to Miyachi, Kishimoto, and Hoyt as applied to claim 1, and therefore claims 4 and 13 are allowable at least for the same reasons as claim 1 is allowable.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Kishimoto, and further in view of U.S. Patent No. 6,414,733 to Ishikawa et al. (hereinafter Ishikawa). Applicants respectfully traverse.

The addition of Ishikawa fails to cure the critical deficiency discussed above in regard to Miyachi, Kishimoto, and Hoyt as applied to claim 1, and therefore claim 6 is allowable at least for the same reasons as claim 1 is allowable.

Claims 7-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Kishimoto and Ishikawa, and further in view of U.S. Patent No. 5,739,888 to Ogura (hereinafter Ogura). Applicants respectfully traverse.

The addition of Ogura fails to cure the critical deficiency discussed above in regard to Miyachi, Kishimoto, and Hoyt as applied to claim 1, and therefore claims 7-9 are allowable at least for the same reasons as claim 1 is allowable.

Claim 11 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Kishimoto and further in view of U.S. Patent No. 6,067,144 to Murouchi (hereinafter Murouchi). Applicants respectfully traverse.

The addition of Murouchi fails to cure the critical deficiency discussed above in regard to Miyachi, Kishimoto, and Hoyt as applied to claim 1, and therefore claim 11 is allowable at least for the same reasons as claim 1 is allowable.

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Miyachi in view of Hoyt. Applicants respectfully traverse.

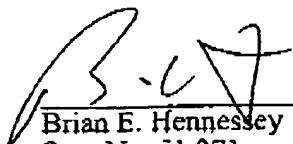
Claim 24 also provides that a reservoir between the substrate structures for preventing the pair of substrate structures from increasing the gap by accumulating part of the liquid crystal, and has been amended in a similar manner to claim 1. Therefore, claim 24 is allowable for at least the same reasons as claim 1 is allowable as discussed above.

CONCLUSION

In view of the remarks set forth above, this application is believed to be in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respecifuly submitted,



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